



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,514	11/30/2001	Phillip M. Jones	1662-50400 JMH (P99-2762)	6512
23505	7590	05/04/2004	EXAMINER AUVE, GLENN ALLEN	
CONLEY ROSE, P.C. P. O. BOX 3267 HOUSTON, TX 77253-3267			ART UNIT 2111	PAPER NUMBER 3

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/998,514

Applicant(s)

JONES, PHILLIP M.

Examiner

Glenn A. Auve

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11, 13, 20, 21, 23 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 5, 10, 12, 22 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                        |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.   |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-13 and 20-27, drawn to a host bridge and using task priorities, classified in class 710, subclass 309.
  - II. Claims 14-19, drawn to a switch coupling nodes and routing messages, classified in class 710, subclass 316.

The claims of Group I are drawn to using CPU task priorities to decide how to allocate a system resource to the CPUs. As noted above such subject matter is classified in 710/309. The claims in Group II are drawn to a distinct invention in that they recite limitations directed to a switch between nodes and the switch routing messages between the nodes and the messages include a priority value. As noted above such switching would be classified in 710/316.

2. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Mr. Jonathan Harris on April 28, 2004, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-13 and 20-27. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Drawings***

Art Unit: 2111

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "output device coupled to said CPUs" as recited in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Figure 1 shows an output device coupled to the south bridge but it is not coupled, directly anyway, to the CPUs.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4,6-9,11,13,20,21,23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Pawlowski et al, PCT International Published Application WO 99/30243.

As per claim 1, Pawlowski et al. (Pawlowski) shows a host bridge (104); a plurality of CPUs (P0-P3) coupled to said host bridge; a system resource coupled to said host bridge (112A); and an output device coupled to said CPUs (112B, which is indirectly coupled to the CPUs via the bridge); wherein said host bridge includes storage for CPU task priorities (32), each CPU being capable of informing the host bridge of its task priority, and said host bridge uses said task priorities when deciding how to allocate said system resource to said CPUs (at least in pages 6-9, wherein the task priorities of the CPUs are stored in the bridge and those

Art Unit: 2111

priorities are used to determine which CPU will service the interrupt to access either a peripheral device or system resource). Pawlowski shows all of the elements recited in claim 1.

As for claim 2, the argument for claim 1 applies. Pawlowski also shows that said storage in said host bridge includes a table in which said host bridge stores said task priorities (32).

Pawlowski shows all of the elements recited in claim 2.

As for claim 3, the argument for claim 2 applies. Pawlowski also shows that said table includes an entry for each of said CPUs, a task priority for a CPU being stored in the entry corresponding to that CPU (at least in pages 9-10). Pawlowski shows all of the elements recited in claim 3.

As for claim 4, the argument for claim 1 applies. Pawlowski also shows that each of said CPUs transmit its task priority to said host bridge via a cycle on a bus interconnecting said CPU and said host bridge (at least on pages 9-10). Pawlowski shows all of the elements recited in claim 4.

As for claim 6, the argument for claim 4 applies. Pawlowski also shows that said cycle is separate from a cycle in which said CPUs request access to said system resource (page 9). Pawlowski shows all of the elements recited in claim 6.

As for claim 7, the argument for claim 1 applies. Pawlowski also shows that said system resource comprises memory (peripheral 112a can be any computer peripheral device which would include peripheral memories, see page 14). Pawlowski shows all of the elements recited in claim 7.

As for claim 8, the argument for claim 1 applies. Pawlowski also shows that said system resource includes a peripheral device coupled to said host bridge (112a). Pawlowski shows all of the elements recited in claim 8.

As for claim 9, the argument for claim 1 applies. Pawlowski also shows that said host bridge uses said task priorities as the sole criterion for deciding how to allocate said system resource (page 7). Pawlowski shows all of the elements recited in claim 9.

As for claim 11, the argument for claim 1 applies. Pawlowski also shows that said host bridge decides how to allocate said system resource based on said task priorities and based on a tie breaking algorithm that is used when two or more CPUs have the highest, yet equal, task priority (pages 7-8). Pawlowski shows all of the elements recited in claim 11.

As for claim 13, the argument for claim 1 applies. Pawlowski also shows that said host bridge decides how to allocate said system resource based on said task priorities and based on other criteria (page 8). Pawlowski shows all of the elements recited in claim 13.

As per claim 20, Pawlowski shows (a) receiving a plurality of cycle requests from a plurality of CPUs; (b) receiving task priorities associated with each of said CPUs; and (c) granting access to a system resource based, at least in part, on said task priorities (at least on pages 6-9, wherein the task priorities of the CPUs are stored in the bridge and those priorities are used to determine which CPU will service the interrupt to access either a peripheral device or system resource). Pawlowski shows all of the steps recited in claim 20.

As for claim 21, the argument for claim 20 applies. Pawlowski also shows that step (c) includes using task priorities as the sole criterion for deciding how to grant access to a system resource (page 7). Pawlowski shows all of the steps recited in claim 21.

As for claim 23, the argument for claim 20 applies. Pawlowski also shows that step (c) includes granting access also based on a tie breaking algorithm that is used when two CPUs have equal task priorities (page 8). Pawlowski shows all of the steps recited in claim 23.

As for claim 25, the argument for claim 20 applies. Pawlowski also shows that step (c) also includes granting access based on other criteria (page 8). Pawlowski shows all of the steps recited in claim 25.

As for claim 26, the argument for claim 20 applies. Pawlowski also shows that said system resource includes memory (peripheral 112a can be any computer peripheral device which would include peripheral memories, see page 14). Pawlowski shows all of the steps recited in claim 26.

As for claim 27, the argument for claim 20 applies. Pawlowski also shows that said system resource includes a CPU (at least on page 8, wherein the interrupts can also be interprocessor interrupts). Pawlowski shows all of the steps recited in claim 27.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The other cited references also show using CPU task priority in arbitration.

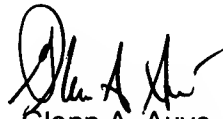
8. Claims 5,10,12,22, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn A. Auve whose telephone number is (703) 305-9638. The examiner can normally be reached on M-Th 8:00 AM-5:30 PM, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2111

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn A. Auve  
Primary Examiner  
Art Unit 2111

gaa  
April 30, 2004